



PATENT ABSTRACTS OF JAPAN

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(54) **PRODUCTION OF HIGH STRENGTH OIL
 WELL STEEL PIPE EXCELLENT IN SSCC
 RESISTANCE**

(57) Abstract:

PROBLEM TO BE SOLVED: To industrially produce an oil well steel pipe having high strength and excellent sulfide stress corrosion cracking resistance (SSCC resistance) at a low cost by specifying a chemical composition and controlling the maximum grain size of non-metallic inclusions in a product.

SOLUTION: A steel pipe, having a composition consisting of, by weight, 0.15-0.30% C, 0.05-1.00% Si,

0.20-1.50% Mn, $\leq 0.02\%$ P, 0.3-1.5% Cr, 0.10-1.00% Mo, 0.01-0.07% Al, $\leq 0.015\%$ N, $\leq 0.0015\%$ S, 0.0002-0.0010% Ca, one or more kinds among 0.01-0.05% Nb, 0.01-0.05% Ti, 0.01-0.10% V, and 0.001-0.005% B, and the balance Fe, is prepared. This steel pipe is hardened from a temp. in the range not lower than the Ac_3 transformation point and lower than the crystal coarsening initiating temp. and then tempered at a temp. not higher than the Ac_1 transformation point. By this method, the maximum grain size of nonmetallic inclusions in a product can be controlled to $\leq 20\mu\text{m}$ and nonmetallic inclusions can be finely dispersed, by which SSCC resistance can be remarkably improved.

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